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Industry's Smallest Liquid Lens Driver for Tiny Autofocus Camera Modules

Note to Editor:

- The MAX14515 is a DC-to-AC IC for driving a liquid lens.
- This liquid lens driver utilizes a charge-pump architecture to reduce the number of external components needed.
- The MAX14515 is featured in a tiny WLP package.
- With its tiny size, the ideal application for this liquid lens driver is autofocus cell-phone camera modules.

SUNNYVALE, CA—December 4, 2008—Maxim Integrated Products (NASDAQ: MXIM) introduces the **MAX14515**, a DC-to-AC liquid lens driver for autofocus (AF) camera modules. The MAX14515 features a high-voltage differential output controlled through an I²C interface. It employs a charge-pump topology to reduce the number of external components typically used for autofocus drivers in camera modules. The I²C interface and the charge-pump topology are combined in a tiny 2mm x 1mm WLP, making the MAX14515 the industry's smallest liquid lens driver. The device is ideal for tiny cell-phone camera modules that use the newest autofocus technologies.

Tiny, High-Voltage Liquid Lens Driver for Autofocus Camera Modules
[High-Resolution Images]

Traditional Solutions Too Large for Shrinking Camera Modules

The traditional liquid lens drivers available on the market require components typically found in boost topologies, which minimally include a large inductor, diode, and high-voltage capacitor. Meanwhile, other charge-pump-based drivers are large and require many capacitors. When the numerous other supporting discrete components are added to the design, the size of these discrete solutions requires a large footprint, one that can no longer be accommodated inside the shrinking autofocus camera modules.

High Integration and High Performance for Tiny Camera Modules

The MAX14515 needs at most two small external capacitors: one low-voltage capacitor and a tiny bypass capacitor. The device integrates an 8-bit monotonic DAC with a single-differential high-voltage output controlled by a 2-wire I²C interface to set the amplitude. The high-voltage output delivers up to $42V_{RMS}$ into a 200pF liquid lens load at 1.1kHz. With its 2mm² footprint, which is at least 60% smaller than the market's available drivers, the MAX14515 liquid lens driver easily fits inside the camera module. The unique combination of smallest footprint, I²C interface, and low shutdown current make the MAX14515 ideal for enabling today's newest high-performance, autofocus camera modules.

The MAX14515 is fully specified over the -40°C to +85°C extended temperature range. The device is priced at $1.50 (1000-up, FOB USA). For more information please visit: www.maxim-ic.com/MAX14515-Driver.

Maxim Integrated Products is a publicly traded company that designs, manufactures, and sells over $2 billion of high-performance semiconductor products annually. It was founded over 25 years ago with the mission to deliver innovative analog and mixed-signal engineering solutions that add value to its customers' products. To date, Maxim has developed over 5900 products serving the industrial, communications, consumer, and computing markets. For more information, go to www.maxim-ic.com.

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Customer Service: 1-800-998-8800
Additional Information: MAX14515
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